

Amendments to the Claims

40. (currently amended) A distributed computer network, comprising:
- a collection of computers;
- means for an added computer to locate the collection of computers;
- means for the added computer to establish a connection to the collection of computers;
- means for each computer in the collection of computers, including the added computer, to establish a logical arrangement such that each computer in the collection of computers can act as a top level of a hierarchy, wherein the hierarchy includes at least a majority substantial number of the computers in the collection of computers.
41. (previously presented) The distributed computer network of claim 40, wherein the hierarchy comprises a set of member computers, a membership of which depends upon a logical location of the computer that acts as the top level of the hierarchy.
42. (previously presented) The distributed computer network of claim 40, further comprising means for the computer that acts as the top level of the hierarchy to initiate a search for one of a specified computer and specified data.
43. (previously presented) The distributed computer network of claim 42, wherein each computer in the collection of computers includes a searchable index of the contents of the computer for facilitating said search.
44. (previously presented) The distributed computer network of claim 40, further comprising means for the computer that acts as the top level of the hierarchy to broadcast

information throughout the hierarchy.

45. (previously presented) The distributed computer network of claim 40, further comprising means to control a bandwidth utilization of the collection of computers.

46. (previously presented) The distributed computer network of claim 40, further comprising a plurality of lower level computers, wherein information regarding the lower level computers is stored in a respective one of the computers in the collection of computers.

47. (previously presented) The distributed computer network of claim 40, further comprising means for rebuilding a logical arrangement of the collection of computers following a loss of at least one computer from the collection of computers.

48. (previously presented) The distributed computer network of claim 40, further comprising means for distributing software updates throughout the collection of computers.

49. (previously presented) The distributed computer network of claim 40, wherein each computer in the collection of computers includes a dynamic physical address.

50. (currently amended) The distributed computer network of claim 40, further comprising means for generating the logical arrangement to substantially minimize a logical distance between a logical center of the collection of computers and a logical collection edge.

51. (new) The distributed computer network of claim 40, wherein the means for each computer in the collection of computers to establish a logical arrangement comprises computer software implementing steps to self organize each computer among the collection of computers.

52. (new) A distributed computer network comprising:

a collection of computers logically arranged such that a first computer of the collection of computers is situated at a logical center of the collection of computers, wherein a plurality of computers from the collection of computers form a logical arrangement comprising a series of concentric polygons around the first computer; and

wherein each computer in the collection of computers can act as a top computer in a hierarchy of computers, said hierarchy including at least a subset of the collection of computers by:

said top computer sending a message along each of at least one radial, each of said at least one radial comprising a line of logically adjacent computers in the collection of computers that logically extends radially from said top computer; and

at least one lower level computer, of the collection of computers, located on one of said radials further forwarding the message along an indirect radial, each indirect radial comprising a line of logically adjacent computers in the collection of computers that logically extends radially from said at least one lower level computer but does not logically intersect any of the at least one radial.

53. (new) The distributed computer network of claim 52, wherein each computer not located on an outermost edge of the collection of computers has the same number of radials extending therefrom as there are sides of the concentric polygons.

54. (new) The distributed computer network of claim 52, wherein each computer operates to:

move to a position closer to the logical center when said closer position is not

occupied by another computer; and

move, either in a clockwise or a counterclockwise rotation relative to the logical center, to a position at the same level as a current position of the computer when the same level position is not occupied by another computer.

55. (new) The distributed computer network of claim 54, wherein each computer further operates to prevent neighboring computers in the logical arrangement from moving to a different logical position during each of said moving to a closer location and moving to a same level position.

56. (new) The distributed computer network of claim 52, wherein each respective computer in the collection of computers stores information relating to each of a plurality of computers logically connected to and logically located around the respective computer.

57. (new) The distributed computer network of claim 56, wherein a top computer in said hierarchy in the collection of computers can initiate a search for content on the plurality of computers logically arranged in concentric polygons by sending said message.

58. (new) The distributed computer network of claim 52, wherein said message is selected from the group consisting of broadcast data, a search parameter, and update information.

59. (new) The distributed computer network of claim 52, wherein, other than the top computer, computers on a radial forward the message to at least two other computers and computers not on a radial forward the message to at least one other computer.

60. (new) The distributed computer network of claim 59, wherein each of the

computers in the collection of computers is forwarded the message only once.

61. (new) A method for configuring a collection of computers in a distributed computer network in a logical arrangement, comprising:

selecting a computer to serve as a logical center of the collection of computers;
adding computers to the collection of computers to logically configure the computers into a plurality of concentric polygons, wherein each added computer performs steps comprising:

finding a computer in the collection of computers;
following one of a radial and an indirect radial that includes the found computer to a collection edge, said radial comprising a series of logically adjacent radial computers that logically extend from the logical center, and said indirect radial comprising a series of logically adjacent computers that logically extend from one of the radial computers, wherein the collection edge comprises a logically outermost computer on said one of the radial or said one of the indirect radial; and

logically attaching to a computer in the collection of computers on the collection edge.

62. (new) The method of claim 61, further comprising the step of moving each added computer to a neighboring logical position that is logically closer to the logical center of the collection of computers if said closer neighboring logical position is not currently occupied by one of the computers in the collection of computers.

63. (new) The method of claim 62, further comprising the step of rotating each

added computer to a neighboring logical position on the same logical level as the added computer if the same level neighboring logical position is not currently occupied by one of the computers in the collection of computers.

64. (new) The method of claim 63, wherein the step of rotating comprises either a clockwise or a counterclockwise motion relative to the logical center.

65. (new) The method of claim 63, further comprising the step of preventing other computers from moving into the closer neighboring logical position and from moving into the same level neighboring logical position during said steps of moving and rotating.

66. (new) A method for logically configuring a collection of computers in a distributed computer network, comprising the steps:

selecting a computer to serve as a logical center of the collection of computers;
arranging computers from the collection of computers such that the collection of computers are logically configured to form a plurality of concentric polygons around the logical center;
adding a computer to the collection of computers;
logically connecting the added computer to a computer in the collection of computers, located at a collection edge, wherein the collection edge comprises a logical outer edge of the collection of computers and forms at least a partial concentric polygon around the plurality of concentric polygons.

67. (new) A method of claim 66, further comprising the steps:

changing a logical location of the added computer to a next inner concentric polygon

if a computer in the collection of computers is not situated at a logical position that neighbors the added computer at the next inner concentric polygon; and

changing a logical location of the added computer to a logically adjacent position on a current concentric polygon of the added computer if a computer in the collection of computers is not situated at said logically adjacent position.

68. (new) The method of claim 67, further comprising the step of sending a message from a top computer of the collection of computers to each of a plurality of neighboring radial computers, each neighboring radial computer forwarding the message to another neighboring radial computer and to a neighboring indirect radial computer, such that the message is forwarded to each computer in the collection of computers only once.

69. (new) The method of claim 67, wherein the collection of computers comprises one of a collection of caching computers and a collection of non-caching computers, wherein each caching computer stores information relating to a corresponding collection of caching computers.